Remarks

Claims 1-4, 7-30, 33-35, and 54-63 are pending. Claims 1, 55, and 56 are the independent claims.

Interview

Applicant thanks Examiner Alter and Primary Examiner Evanisco for the courtesies extended in the May 14, 2009, interview. In the interview, Examiner Alter, Examiner Evanisco, and the undersigned discussed the independent claims of the present application and U.S. Patent Publication No. 2002/0072784 to Sheppard, Jr. The Examiners agreed that Sheppard, Jr., particularly paragraphs [0026], [0027], [0046] and [0056], do not disclose the mechanism of electrothermal ablation as particularly defined by Applicants' claims.

Rejections Under 35 U.S.C. § 102 and § 103

Claims 1-4, 7-14, 16-24, 29-30, 33-34 and 55-63 are rejected under 35 U.S.C. 102(a) and 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sheppard (U.S. Patent Publication No. 2002/0072784). The rejection is respectfully traversed.

Sheppard does not disclose or suggest disintegration of a reservoir cap via electrothermal ablation as more particularly defined by Applicants' claims. The most relevant portions of Sheppard are paragraphs [0026] and [0027] which, when considered together, describe three different mechanisms for opening a reservoir. Paragraph [0026] discloses one mechanism of opening the reservoir – oxidation and dissolution of an anode-type reservoir cap. This mechanism does not anticipate any of the claims, because the cap does not undergo electrothermal ablation. That is, it does not rupture or disintegrate due to internal resistive heating, rather it disintegrates via a chemical oxidation reaction.

Paragraph [0027] principally discloses two additional mechanisms of release – (1) melting a "thermally-responsive polymer" using a "nearby" resistor, and (2) modulating the porosity or integrity of an "electrically-responsive polymer." Regarding Sheppard's disclosure of using a "thermally-responsive polymer," this disclosed mechanism does not anticipate any of the present claims because electric current is transmitted through the "nearby" resistor and not through the reservoir cap itself.

Regarding the disclosure of using an "electrically-responsive polymer," this disclosed mechanism does not anticipate any of the present claims because (1) the reference does not explicitly or inherently disclose passing electric current through the polymer, and (2) the electrically-responsive polymer does not undergo electrothermal ablation as defined by Applicants' claims. Although Sheppard discloses applying "electrical energy to the reservoir cap," Sheppard does not explicitly or inherently disclose passing an electric current through the cap or teach Applicants' input and output leads used to pass electric current through the cap. Electrically-responsive polymers typically respond to an electric field – not an electric current passing through the polymer. Furthermore, with the rare exceptions of conjugated polymers and doped organic semiconductors, polymers are generally excellent insulators and do not conduct electricity. As such, Applicants respectfully submit that Sheppard does not explicitly or inherently disclose passing an electric current through the polymer cap.

Contrary to the Examiner's assertion, Sheppard does not teach "that 'upon the application of electrical energy to the reservoir cap' the cap disintegrates" [December 16, 2008 Office

Action, page 4]. Sheppard's discussion of "disintegration" specifically refers to the mechanism of the anode-type cap, not the electrically-responsive polymer. Further, the Examiner's assertion that "in order to provide the reservoir cap with electrical energy, there would necessarily be conducting leads" is both unsupported by evidence and incorrect. Electrically-responsive polymers are known to respond to electric fields (another form of electrical energy). In this examples, electrical energy is applied to the cap but not through the cap in the form of an electric current as recited in Applicants' claims.

Finally, while some electrically-responsive polymers may change in porosity or in structure when exposed to an electric field, they do not undergo electrothermal ablation as defined by Applicants' claims. As explained in Applicants' specification, particularly in the amendment to the specification filed November 8, 2006, "'[e]lectrothermal ablation' refers to the rupture by an electrically-induced thermal shock that causes the reservoir cap structure to fracture, and/or to a loss of structural integrity of the reservoir cap due to a phase change, (e.g., melting or vaporization), either or both of ***which are caused by the generation of heat within the reservoir cap as a result of electric current flowing through the reservoir cap***" (emphasis added). Electrically-responsive polymers, on the other hand, respond to electric fields which induce strains in the chemical bonds. Sheppard does not disclose that they undergo electrothermal ablation.

Claim 55

With respect to claim 55 which recites that the reservoir cap is "metal," the Examiner cites paragraph [0046] of Sheppard which references metal film reservoir caps. The referenced metal films are anode-type caps. As discussed previously, these caps do not undergo electrothermal ablation. As such, claim 55 is not anticipated or obvious in view of Sheppard.

Rule 1.132 Declaration by John Santini

The Rule 1.132 Declaration of John Santini is evidence that supports the foregoing explanation of the prior art. Dr. Santini states that "Sheppard simply does not disclose or suggest applying an electrical current directly through a reservoir cap to cause it to heat and disintegrate." ¶ 4. The evidentiary weight of this sworn statement is not negated merely because Applicants have subsequently amended the claims. On the contrary, Dr. Santini's explanation of what Sheppard does and does not teach remains unchanged and unrefuted by any other objective evidence or sound technical reasoning.

Conclusions

Applicants respectfully submit that the claims are patentable over the prior art of record. Prompt allowance of each of claims 1-4, 7-30, 33-35, and 54-63 is therefore respectfully solicited.

The undersigned kindly invites the Examiner to contact him by telephone (404.853.8066) if any outstanding issues can be resolved by conference or examiner's amendment.

Respectfully submitted,

/Chad A. Guice
Chad A. Guice
Reg. No. 54,141

Date: May 15, 2009

SUTHERLAND ASBILL & BRENNAN LLP
999 Peachtree Street, NE
Atlanta, Georgia 30309-3996
(404) 853-8066
(404) 853-8806 (fax)